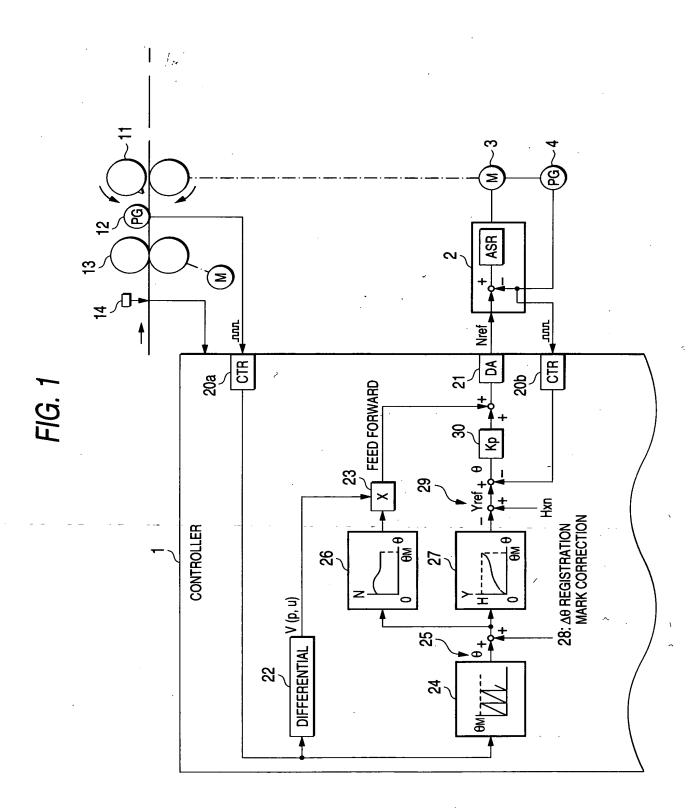
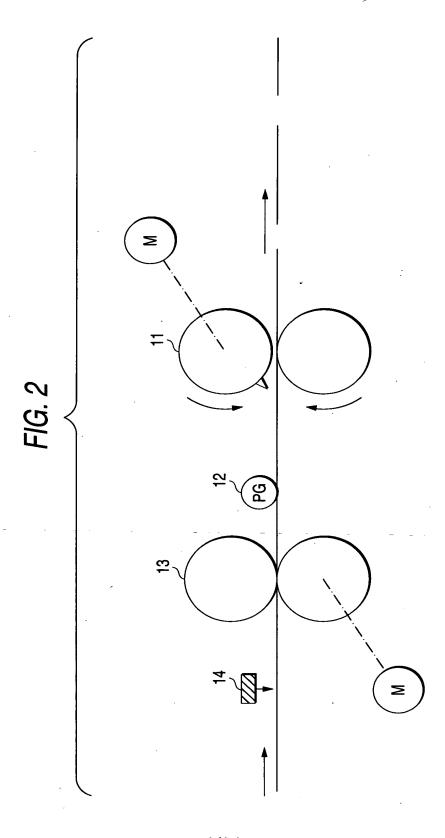
Deaganty.ovilor





IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND METHOD
Filed: July 11, 2001
Darryl Mexic 202-293-7060
3 of 24

FIG. 3A STRAIGHT BLADE

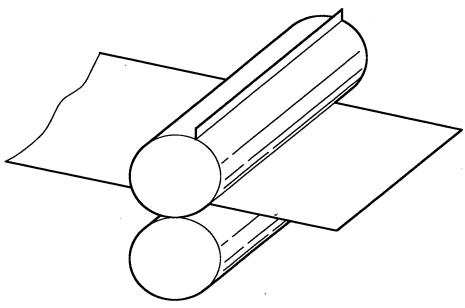


FIG. 3B SPIRAL BLADE

IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND METHOD.....
Filed: July 11, 2001
Darryl Mexic 202-293-7060
1 of 24

FIG. 4A

SINGLE BLADE

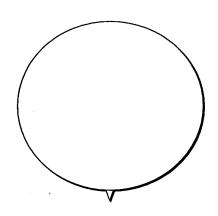


FIG. 4B

**DOUBLE BLADE** 

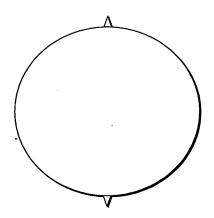


FIG. 4C

TRIPLE BLADE

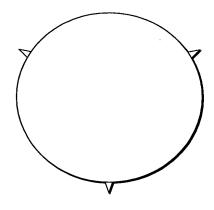
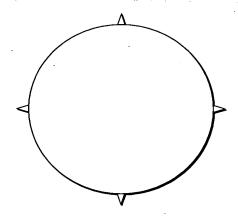
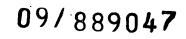
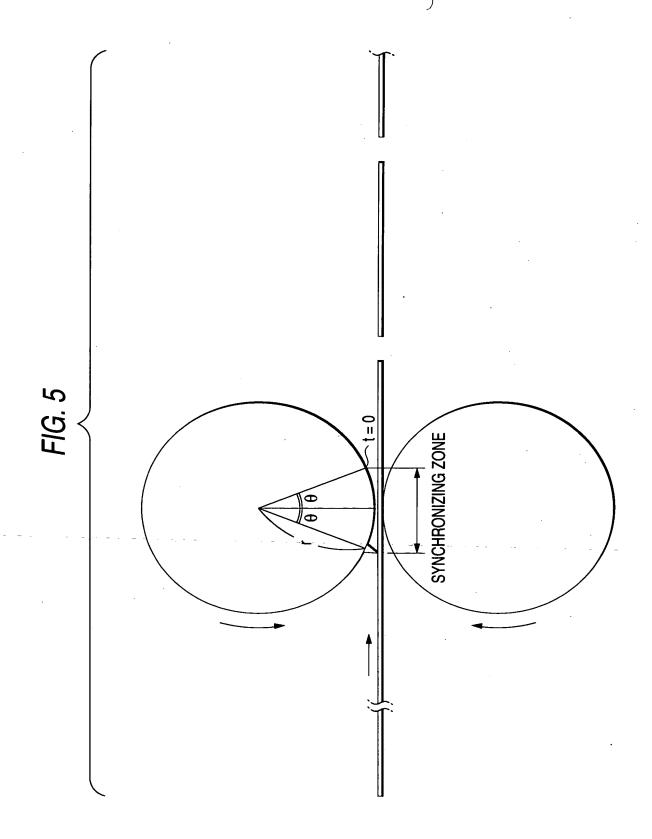


FIG. 4D

#### **QUADRUPLE BLADE**





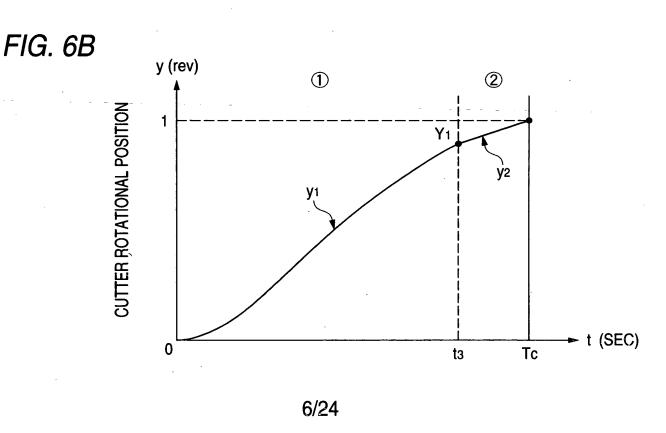


5/24

6 of 24

[CASE OF SPIRAL BLADE]

FIG. 6A 1 2 N (rpm) **CUTTING ZONE SHORT CUTTING** n1 n2 **CUTTER SPEED** N<sub>1</sub> N<sub>1</sub> LONG CUTTING t (SEC) 0 Тс tз



IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRON
CAM TYPE ROTARY CUTTER, AND METHO
Filed: July 11, 2001
Darryl Mexic 202-293-7060
7 of 24

FIG. 7A

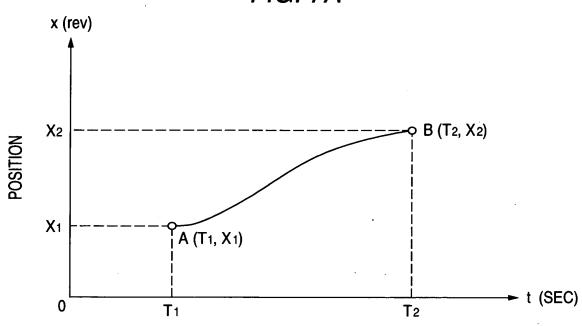
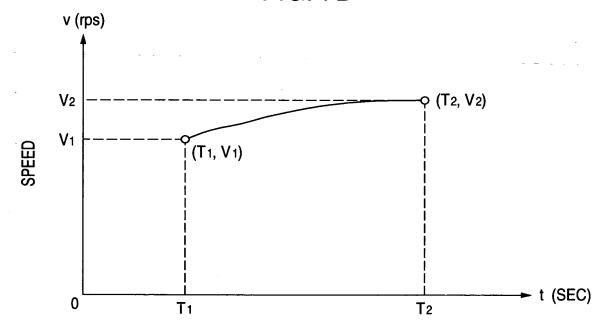


FIG. 7B



IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND METHOD
Filed: July 11, 2001
Darryl Mexic 202-293-7060
3 of 24

(CAM CURVE EQUATIONS OF SPIRAL BLADE)

ZONE	CUTTER ROTATIONAL SPEED n (rpm)	CUTTER ROTATIONAL POSITION y (rev)
<b>①</b>	n1 = 60 (3At <sup>2</sup> + 2Bt + C)	$y_1 = At^3 + Bt^2 + Ct + D$
3	n2 = N1	$y_2 = \frac{(1 - Y_1)}{(T_C - t_3)} (t - T_C) + 1$

## [ CASE OF STRAIGHT BLADE ]

FIG. 9A

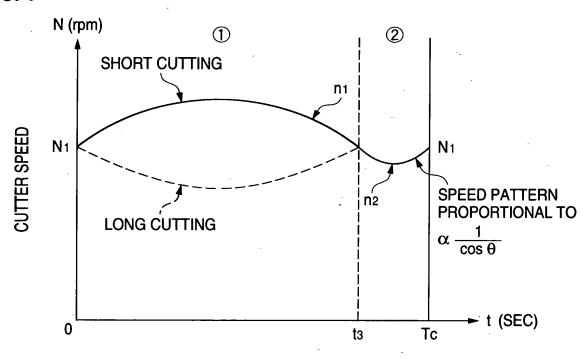
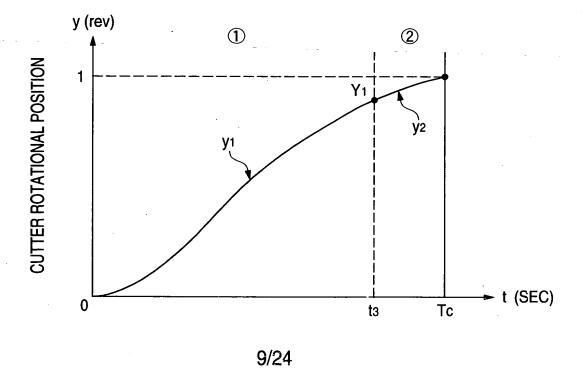


FIG. 9B



IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND METHOD.....
Filed: July 11, 2001
Darryl Mexic 202-293-7060
10 of 24

			·
RAIGHT BLADE)	CUTTER ROTATIONAL POSITION y (rev)	$y_1 = At^3 + Bt^2 + Ct + D$	$y_2 = \frac{1}{360} \sin^{-1} \left\{ \left( \frac{V_0}{r} \right) \left( t - \frac{t_3 + T_C}{2} \right) \right\} + G$ $\left( G = 1 - \frac{\theta_0}{360} \right)$ $\left( UNIT OF \sin^{-1} x:  (^{\circ}) \right)$
(CAM CURVE EQUATIONS OF STRAIGHT BLADE)	CUTTER ROTATIONAL SPEED n (rpm)	n1 = 60 (3At <sup>2</sup> + 2Bt + C)	$n_2 = \frac{60}{2\pi \sqrt{(\frac{r}{V_0})^2 - (t - \frac{t_3 + T_C}{2})^2}}$
	ZONE	0	©

IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND METHOD.....
Filed: July 11, 2001
Darryl Mexic 202-293-7060
11 of 24

FIG. 11A

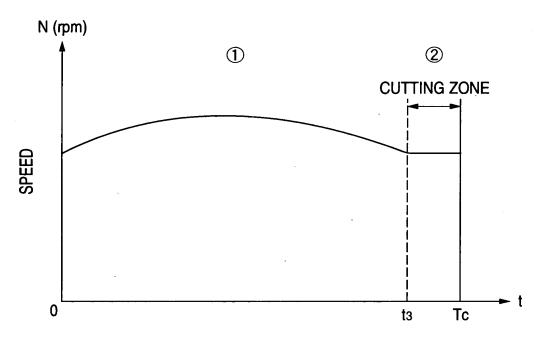
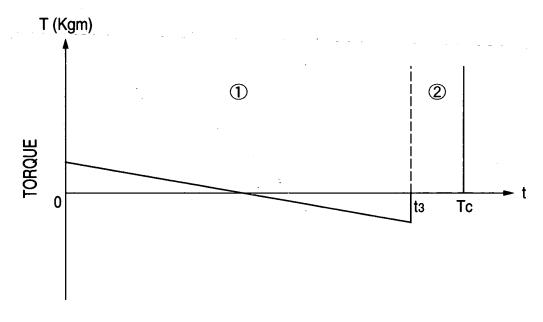


FIG. 11B



IKEGUCHI Q65291 METHOD OF CONTROLLING AN ELECTRONIC CAM TYPE ROTARY CUTTER, AND METHOR Filed: July 11, 2001 Darryl Mexic 202-293-7060 12 of 24

FIG. 12A

[ SPEED PATTERN OF QUADRATIC FUNCTION WAVEFORM ]

N (ABSOLUTE NUMBER)

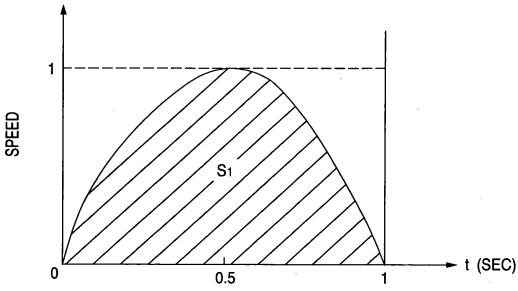
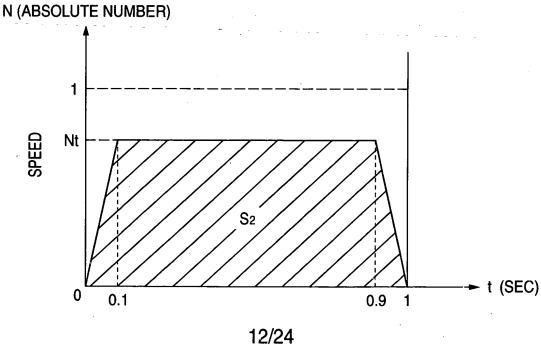


FIG. 12B

[SPEED PATTERN OF TRAPEZOIDDAL WAVEFORM]



IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC CAM TYPE ROTARY CUTTER, AND METHOD Filed: July 11, 2001
Darryl Mexic 202-293-7060
13 of 24

FIG. 13A

### [ SPEED PATTERN OF GENERALIZED TRAPEZOIDAL WAVEFORM ]

N (ABSOLUTE NUMBER)

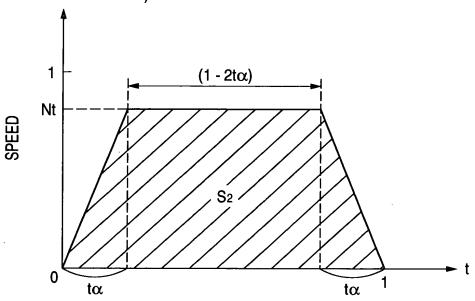
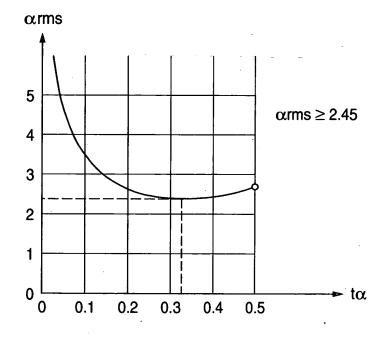
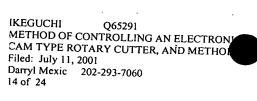
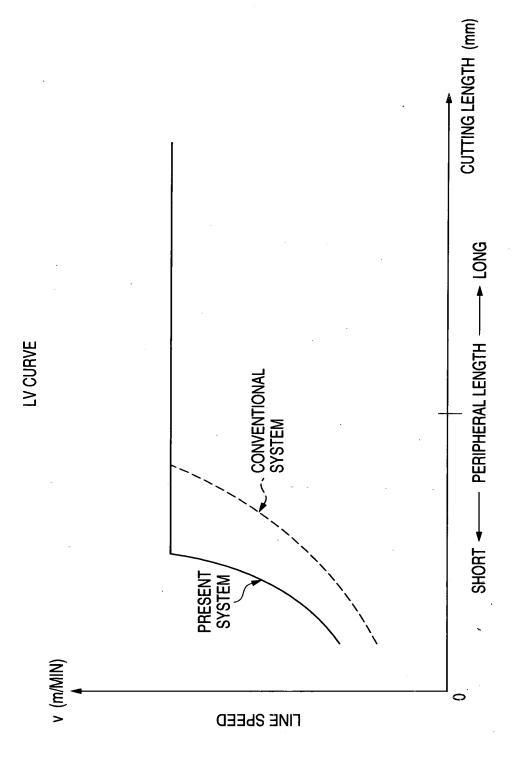


FIG. 13B



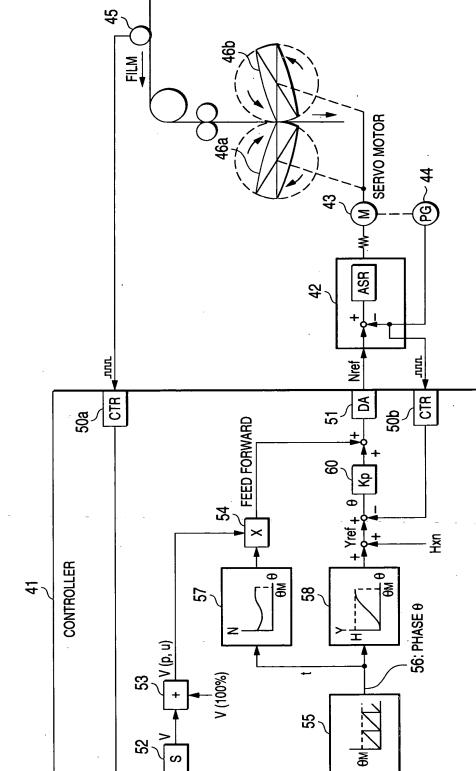
13/24





14/24

FIG. 15



15/24

KEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRO
CAM TYPE ROTARY CUTTER, AND METH
Filed: July 11, 2001
Darryl Mexic 202-293-7060
16 of 24

# FIG. 16A [SINGLE HEATER LATERAL SEALING MECHANISM]

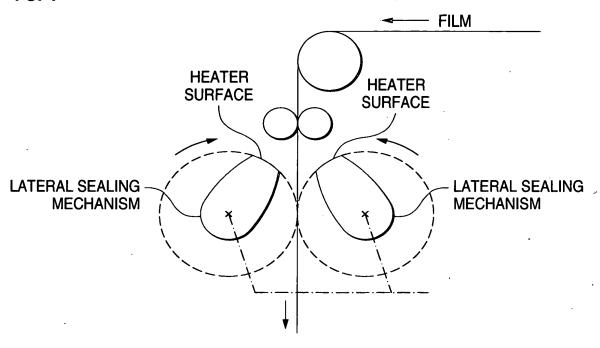
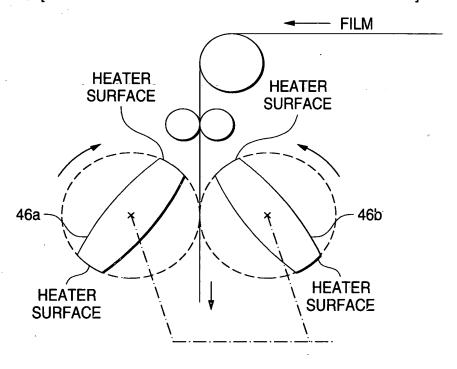


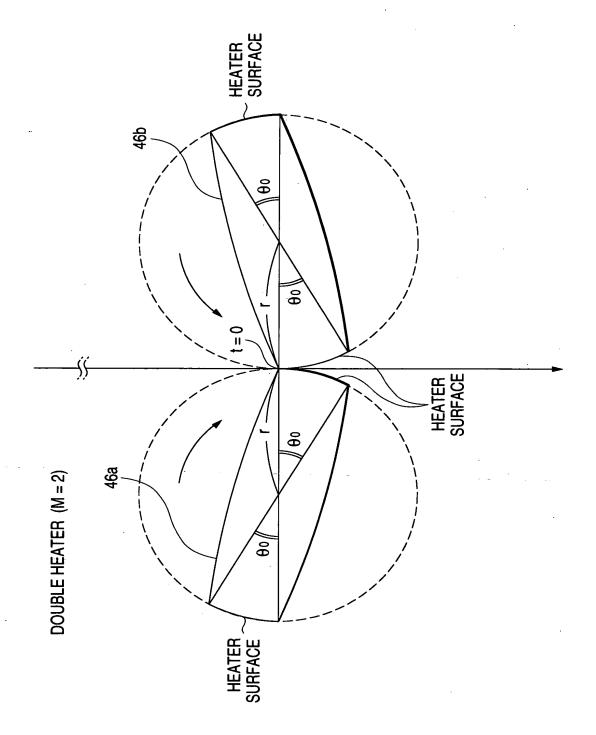
FIG. 16B

## [ DOUBLE HEATER LATERAL SEALING MECHANISM ]



16/24

IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRO
CAM TYPE ROTARY CUTTER, AND METH
Filed: July 11, 2001
Darryl Mexic 202-293-7060
17 of 24



17/24

FIG. 18A

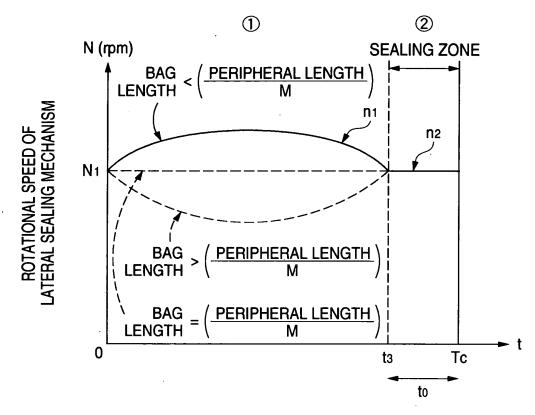
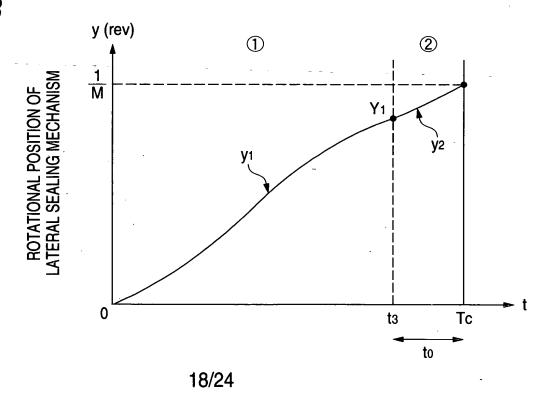


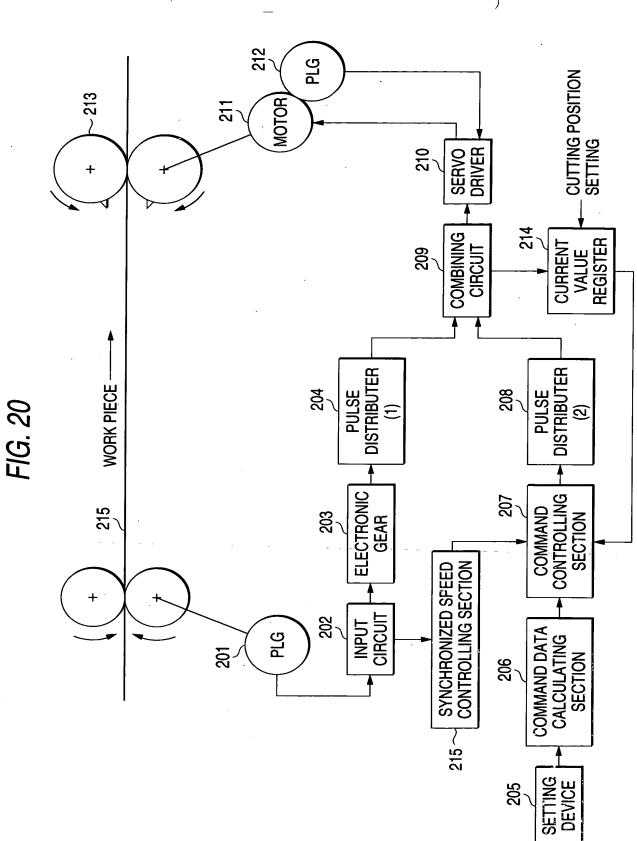
FIG. 18B



METHOD OF CONTROLLING AN ELECTRONIC CAM TYPE ROTARY CUTTER, AND MET Filed: July 11, 2001
Darryl Mexic 202-293-7060
19 of 24

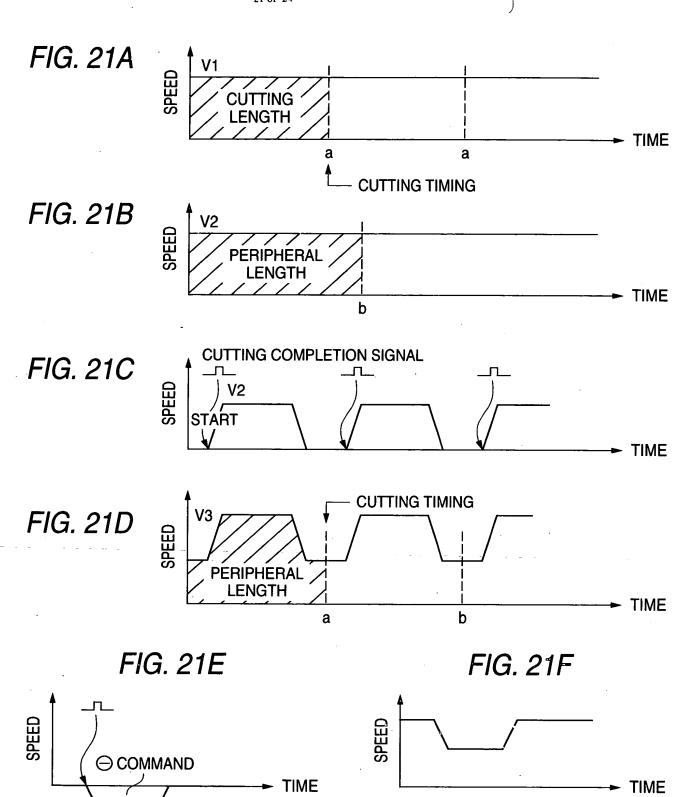
ZONE	RÓTATIONAL SPEED OF LATERAL SEALING MECHANISM n (rpm)	ROTATIONAL POSITION OF LATERAL SEALING MECHANISM y (rev)
(Î) NON SEALIING ZONE	n1 = 60 (3At <sup>2</sup> + 2Bt + C)	$y_1 = At^3 + Bt^2 + Ct + D$
© SEALIING ZONE	n2 = N1 · (CONSTANT)	$y_2 = \frac{\frac{1}{M} - Y_1}{T_C - t_3}$ (t - Tc) + $\frac{1}{M}$





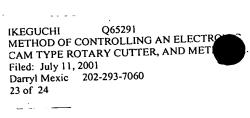
20/24

IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELECTRONIC
CAM TYPE ROTARY CUTTER, AND ME
Filed: July 11, 2001
Darryl Mexic 202-293-7060
21 of 24



21/24

IKEGUCHI Q65291
METHOD OF CONTROLLING AN ELEC
CAM TYPE ROTARY CUTTER, AND ME
Filed: July 11, 2001
Darryl Mexic 202-293-7060
22 of 24 313 LOAD ති **AMPLIFIER** 312 ADDER 311 310 ADDER MULTIPLIER MULTIPLIER MULTIPLIER 316 309 309 315 317 DIFFER-ENTIATOR TRACTOR TRACTOR SUB-TRACTOR COUNTER 305 88 V 8 305 307 SUB-3 321 INTERPOLATING CIRCUIT 贸 319 CURVE 22/24



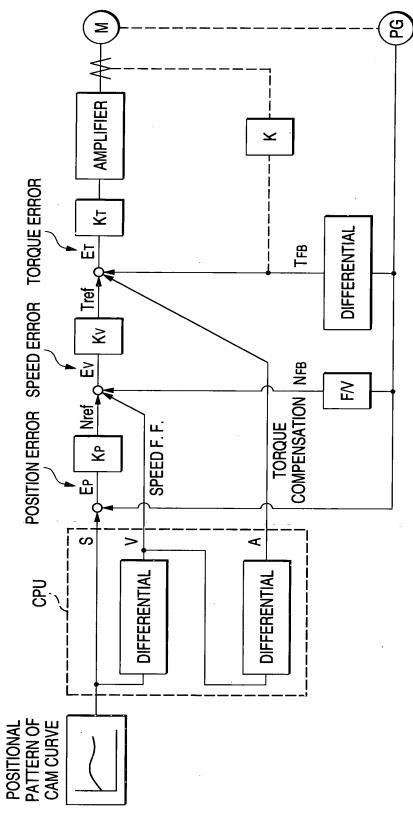


FIG. 23

23/24

09/889047

FIG. 24A

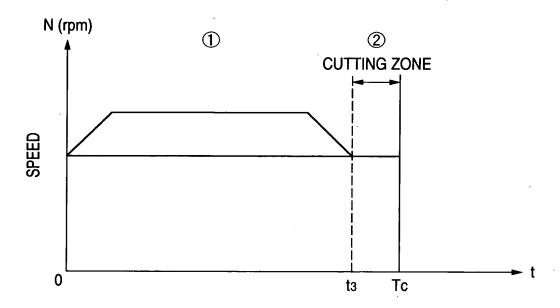
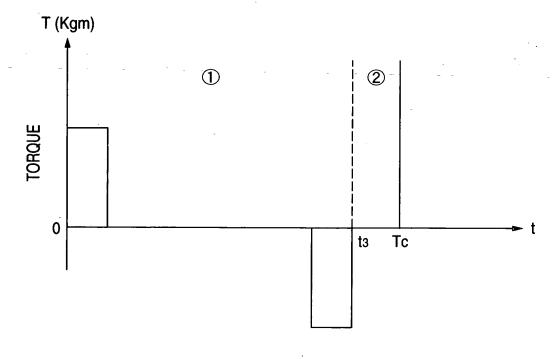


FIG. 24B



24/24